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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/116,589	07/16/1998	SHINGO NISHIKAWA	Q51098	2728

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SUGHRUE MION ZINN MACPEAK & SEAS
2100 PENNSYLVANIA AVENUE N W
WASHINGTON, DC 200373202

EXAMINER

CHANG, AUDREY Y

ART UNIT PAPER NUMBER

2872

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/116,589

Applicant(s)

NISHIKAWA ET AL.

Examin r

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cov r sh t with the correspond nce address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28, 29 and 64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28, 29 and 64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on March 11, 2004, which has been entered into the file.
- By this amendment, the applicant has amended claims 28 and 29.
- Claims 28, 29 and 64 remain pending in this application.

Response to Amendment

1. The amendment filed **March 11, 2004** is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: **Claims 28 and 29 have been amended** to include the feature "assigned to a first part of the pixels" and the feature "assigned to the second part of the pixels". The specification fails to give support by simply having the recording steps as recited in claims 28 and 29, the assignments to first and/or second parts of the pixels is achieved. The specification also fails to define what is considered to the first part of the pixels and the second part of the pixels.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 28, 29 and 64 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in

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the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The reasons for rejection based on the newly added matters are set forth in the paragraph above.

4. **Claims 28, 29 and 64 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification fails to teach how to “assign” the recorded interferences to a first part and a second part of the pixels. The assignment seems to be arbitrary if no specific means is provided to achieve such.

Claim Objections

5. **Claims 28, 29 and 64 are objected** to because of the following informalities:

(1) The claims fail to provide structural and logical relationships among the various terms recited in the claims. It is not clear how does the “a hologram recorded medium”, “a collection of pixels”, “a plurality of volume type diffraction gratings comprising volume holograms” relate to the “photosensitive material” and “interference fringes” recited in claims 28 and 29. The lacking of these structural and logical relationships makes the claims incomplete and makes the scopes of the claims unclear.

(2) **Claims 28 and 29 have been amended** to include the phrases “a first part of the pixels” and “a second part of the pixels” that are confusing and indefinite since it is not clear what is considered to be a these parts. It is also not clear why would one recording of the interference can be assigned to more than one pixels? How do the parts of the pixels (i.e. more than one pixels) be defined?

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 28 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Wreede et al (PN. 5,499,118) in view of the patents issued to Dausmann et al (PN. 5,825,514) and Moss et al (PN. 5,016,953).

The reasons for rejection are set forth in the previous Office Action.

Claim 28 has been amended to include the feature of assigning the recorded hologram to a first and second part of the pixels. Since the claim fails to define what are these pixels and how the assignment is done, these are arbitrarily defined. One can easily **assign** the hologram formed by using the method of Wreede et al in combination with Dausmann et al as a first part of the pixels and any repeating process of the method for recording additional holograms, which implicitly will be different from the first one, as the second part of the pixels.

8. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Wreede et al (PN. 5,499,118) in view of the patents issued to Hopwood (PN. 4,915,464), Dausmann et al (PN. 5,825,514) and Moss et al (PN. 5,016,953).

The reasons for rejection are set forth in the previous Office Action.

Claim 29 has been amended to include the feature of assigning the recorded hologram to a first and second part of the pixels. Since the claim fail to define what are these pixels and how the assignment is done, these are arbitrarily defined. One can easily assign the hologram formed by using the method of

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Wreede et al in combination with Dausmann et al as a first part of the pixels and any repeating process of the method for recording additional holograms, which implicitly will be different from the first one, as the second part of the pixels.

Response to Arguments

9. Applicant's arguments filed on March 11, 2004 have been fully considered but they are not persuasive. The newly amended features have fully considered and they are rejected for the reasons stated above.

10. In response to applicant's arguments, which state that the step of "replacing the first reflection type relief hologram with a second reflection hologram" is not obvious matter of design choice, the examiner respectfully disagrees. Firstly, claims 28, 29 and 64 are drawn to a method for making hologram using master hologram(s), which as demonstrated by the cited references, is an extremely well known hologram copy method in the art. This method allows mass production of hologram from a master hologram and is one of the most common methods used in the art to create hologram or copying hologram. "Copying hologram" means to record the information stored on the master hologram to a recording medium to create a second hologram bearing the same information. It is within general skill of a worker in the art to use either a *single* master hologram to copy all of the information to create the second hologram through a single exposure step or to use **a plurality of master holograms** each bearing part of the information to create the second hologram via several exposure steps. The step is exactly the same for each exposure. The repetition of the step therefore really requires no non-obvious "invention" to achieve. The applicant is respectfully noted that multiple exposure to create a plurality of hologram within a single recording medium is really well known in the art. The issue concerning the shrinkage factor is not a relevant issue here since they are not in the claims.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

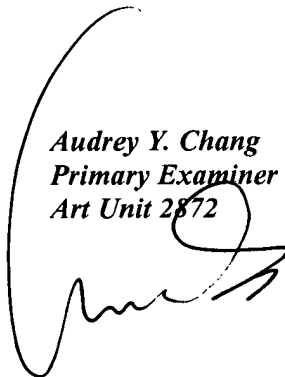
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Audrey Y. Chang
Primary Examiner
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A. Chang, Ph.D.

A handwritten signature in black ink, appearing to be 'Audrey Y. Chang', is written over the printed name and title.